

## **REMARKS**

Favorable reconsideration and allowance of this application are requested.

### **1. Discussion of Amendments**

By way of the amendment instructions above, the pending claims have been amended so as to address certain informalities helpfully identified by the Examiner and to clarify the same. The substance of claim 4 has been incorporated into claim 4 and as such, claim 4 has been canceled as redundant. The "use" claim 9 has also been canceled.

Thus, upon entry of this amendment, claims 1-3, 5-8 and 10-17 will remain pending herein for consideration. As will become evident from the discussion which follows, all pending claims are in condition for allowance.

### **2. Response to Species Election**

The Examiner has raised the specter of a species election under 35 USC §121 for the claimed branching agent. Applicants are somewhat perplexed by this requirement since *all* of the pending claims 1-17 are acknowledged to be generic to the constructively elected species of the branching agent defined by claim 3. Nonetheless, in order that applicants may be deemed fully responsive, the species of the branching agent defined by claim 3 (i.e., a copolymer of an unsaturated dicarboxylic acid or derivative thereof and a vinyl aromatic monomer) is elected.

### **3. Response to 35 USC §101 Rejection**

The cancellation of claim 9 renders moot the rejection advanced against 35 USC §101.

#### **4. Response to 35 USC §112, Second Paragraph Rejection**

Prior claims 1-17 attracted a rejection under 35 USC §112, second paragraph as allegedly being indefinite. The claims have been amended above in an effort to clarify the same and to remove any perceived issues of statutory indefiniteness.

With regard to the Examiner's assertions that the metes and bounds of the various components, e.g., the "black polyaniline derivative", the "branching agent" and the like, are unclear, applicants respectfully note that the issue is one of scope to be accorded to the applicants' claims and *not* one of statutory indefiniteness. Thus, a "black polyaniline derivative" is exactly what it says – namely, a derivative of polyaniline that is black. Similarly, a "branching agent" is exactly what it says – namely, an agent that allows for branching of the polyamide. On this latter point, the Examiner will note that pending claim 8 be amended so as to clarify that the branching agent is one having functional groups capable of reacting with functional groups of the polyamide base resin.

Thus, all presently pending claims are submitted to be definite within the purview of 35 USC §112, second paragraph. Withdrawal of the rejection advanced under this statutory provision is therefore in order.

#### **5. Response to Substantive Rejections**

Prior claims 1-10, 12, 14 and 16-17 attracted a rejection under 35 USC §102(b) as allegedly anticipated by, or alternatively under 35 USC §103(a) as allegedly obvious over WO '558 (WO 0266558). In addition, prior claims 11, 13 and 15 were rejected under 35 USC §103(a) as allegedly obvious from WO '558 in view of Joachimi et al (US 2003/0162900). Applicants submit that neither WO '558 nor Joachimi et al is appropriate as a reference against the presently pending claims.

The present application relates to a polyamide composition comprising — in short:

- a polyamide
- a black polyaniline derivative, in an amount of 0.1 to I weight %
- a branching agent in an amount of 0.1 to S weight %, having functional groups that can react with functional groups on the polyamide
- carbon black in an amount of 0.1 to I weight %; with the weight % relative to the amount of polyamide.

Nowhere in WO '558 is a composition described with the above features, Specifically, WO '558 does not disclose at all the amounts of black polyaniline derivative and carbon black as is defined by applicants' pending claims. The composition according to WO '558 comprises a composition F1, which comprises lubricants, carbon black, and nigrosine (see page 14, line 7). The total amount of F1 is 1%, according to Table 1 on page 16. However, nowhere in WO '558 is the amount of the ingredients of F1 further specified. Thus, for at least this reason, the presently pending claims are novel over WO '558

Furthermore, applicants respectfully submit that the presently claimed invention is also *unobvious* over WO '558 alone or in combination with Joachimi et al.

In this regard, the present invention relates to a polyamide composition comprising a black polyaniline derivative, a chain branching agent and carbon black, which results in an improved rheological behavior. This is advantageous for several processes applied in the molding industry, as for example blow molding and injection molding.

This beneficial effect is exemplified in Table 2 of page 15 of the present application. Specifically, Examples I-III show that the viscosity enhancing effect of the branching agent, though being less than in the non-pigmented compositions, is much larger than in the comparable compositions containing only nigrosine and is much

higher than could be expected from the addition of carbon black (see for detailed discussion of the experimental evidence page 12, lines 12-29 and page 13 lines 15-26, together with Table 2 on page 15 and Table 4 on page 16 of the present application) as carbon black has hardly any influence on the melt shear viscosity at low shear rates (see comparative example F in Table 2 on page 15 of the present application).

Applicants therefore respectfully disagree with the assertion of the Examiner that "WO '558 differs in essence from the above-rejected claims in not expressly disclosing a welding process...." (see page 6, paragraph 8 of the Office Action).

WO '558 does not relate at all to a polyamide composition in which the rheological behavior is modified, and it is silent about melt viscosity, shear thinning ratio or burst pressure. WO '558 also is completely silent regarding a combination of black polyaniline derivative, a branching agent and carbon black in a polyamide composition having these beneficial properties. A person skilled in the art, wishing to influence the rheological behavior of a polyamide composition, would therefore not consult WO '558 as it relates to a composition with other characteristics. Even if he would consult WO '558, however he would not arrive at the present invention, as WO '558 does not relate to chain branching agents in polyamides, nor relates to influencing the rheological behavior of a polyamide composition.

Joachim relates to an impact-resistant modified polyamide molding composition with a higher melt viscosity and improved surface quality. As acknowledged by the applicants, a known method to increase the low shear viscosity and/or shear-thinning ratio of a polyamide composition is to add a branching agent that can react with the polyamide (see the specification on page 1, lines 29-34 of the pending application). However, in compositions comprising a black polyaniline derivative, adding branching agents does **not** result in the desired modification of the rheological behavior.

A black polyaniline derivative is listed in Joachim in paragraph [0091], namely nigrosine. Carbon black is listed in this paragraph as well. In the examples, however,

only carbon black is employed (see paragraph [0104] of Joachimi). Joachimi nowhere describes a polyamide composition comprising **both** a black polyaniline derivative, carbon black and a branching agent, let alone that this combination of components leads to an improvement of the rheological properties of a polyamide composition. A person skilled in the art, wishing to influence the rheological behavior of a polyamide composition comprising a black polyaniline derivative, would therefore not arrive at the claimed invention as Joachimi does not relate to this kind of composition, let alone that the addition of branching agent and carbon black results in a improved rheological behavior.

Applicant thus respectfully submits that the present application is non-obvious over the WO '557 alone or in combination with Joachimi et al. Withdrawal of the rejections under 35 USC §103(a) is therefore in order.

## 5. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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